

REMARKS

Claim Status

Claims 17-22 are rejected. Claims 1-16 and 23 have been withdrawn.

Drawings

The examiner has objected to the drawings: specifically, “the saw blade including a matrix with encapsulated large and small abrasive materials and together forming a corrugated shape” as found in claim 17.

The examiner notes that claim 8 illustrates a corrugated blade. Figure 10, which the examiner ignores, illustrates encapsulated abrasive materials which, together with the corrugated blade illustrated in Figure 8, show the objected to phrase. Additional support for the encapsulated large and small particles are found in figures 13-14 and are fully described in figures 15-16. Accordingly, all of the elements objected to by the examiner find support in the drawings. Therefore, the applicant respectfully requests that the examiner withdraw the instant objection.

Claim Rejections – 35 U.S.C. § 112

The examiner has rejected claims 17-21 as being indefinite for failing to point out and claims the subject matter of the invention. Specifically, the examiner acknowledges that it is clear that the saw blades are a combination of matrix and abrasive materials and that the raised and lowered surfaces are also made up of the matrix and abrasive materials.

The examiner uses Ishizuka as an accurate picture of what a surface featuring abrasive materials would look like and complains that it is unclear how the raised surface is parallel to the lowered surface. The examiner looks to the microscopic details of the surface to see that a surface wavy and requires that in order for the surfaces to be parallel,

they must incorporate the same microscopic details perfectly. The examiner uses this same logic in regard to claim 20 when complaining about the raised and lowered portions be substantially flat.

The applicant cannot disagree with the examiner more. The examiner is trying to utilize microscopic details to provide limitations on macroscopic features of an article. According to the examiner's logic, nothing would ever be parallel since the microscopic surface will never, ever, perfectly match. However, a quick search of the USPTO database reveals **517961**, after 1975, having the word parallel in the claims. While all of these are not necessarily directed to parallel surface, one only need look at a few of these patents to find some that are. Thus, the established policy of the USPTO appears to not require microscopic exactitude when claiming parallel surface. The applicant's attorney knows of no case law or USPTO regulation that requires otherwise.

In the instant matter, the examiner looks to Ishizuka to discern the microscopic details of the applicant's invention. This is not permissible. The applicant does not incorporate Ishizuka into his claims. In fact, the examiner should look to the applicant's figure 10, which shows a surface detail of the blade, one which does not include a wavy surface. The applicant's surfaces at time of manufacture, as essentially flat (see claim 20) and these surfaces can be parallel as claimed in claim 17. Thus, the examiner's reasons for this instant rejection are unfounded and improper.

Accordingly, the applicant respectfully requests that the examiner withdraw the instant rejection.

Claim Rejections – 35 U.S.C. § 102

The examiner has rejected claims 17, 18, 20, and 21 as being anticipated by Hagan (6,098,609).

Hagan is actually US 5,997,597. Ishizuka is US 6,098,609.

The examiner feels that Hagan discloses the same invention including a saw blade (120) consisting essentially of a matrix (22) for encapsulating large and small abrasive particles in the matrix (26). The terms big and small are relative terms meaning it can be considered big or small when being compared to another structure. The small abrasive particles being encapsulated inside the matrix in a high-density concentration, the blade being corrugated with substantially uniform thickness and comprising raised surfaces and lowered surfaces, the lowered surfaces being parallel to an spaced laterally and longitudinally of the raised surfaces, and transition portions connecting the raised surfaces and the lowered surfaces.

The applicant clearly disagrees with the examiner. The examiner appears to be misreading Hagan. Hagan discloses a knurled cutting tool consisting of a grinding wheel having a core (Hagan element 22) having a knurled surface to provide a uniform texture of projections (24) and a single layer of abrasive grain brazed onto the knurled cutting face. There is no disclosure in Hagan that the metallic core (22) encapsulates any abrasive particles, let alone large and small ones, as required by the instant claims. Further, the abrasive particles form a single layer on the surface of the cutting tool and do not form the bulk of the blade as is required by the instant claims. Further still, while Hagan discloses different sizes of abrasive grains, Hagan does not disclose a blade have both large and small abrasive particles encapsulated inside of a matrix, it only discloses a single size, as is required by the instant claims. Moreover, Hagan definitely does not disclose a blade

having a substantially uniform thickness. First Hagan does not disclose a blade but a grinding wheel. Second the knurling of Hagan's grinding wheel clearly defeats any argument of an uniform thickness since the outer surface has raised and lowered sections, but the inner surface does not.

Anticipation is the complete disclosure in a single prior art source of a device **substantially identical to the claimed invention**. Harris v. NRM Corp., 191 USPQ 643 (1976, ND Ohio). An invention is anticipated when "all of the same elements are found in exactly the same situation and united in the same way to perform the function in a single prior art reference." Schroeder v. Owens Corning Fiberglas Corp., 514 F2d 90, 185 USPQ 723 (1975, CA9 Cal). (Citing Walker v. General Motors Corp. (CA9 Cal) 362 F2d 56, 58, 149 USPQ 472, 473, 474. An invention is not anticipated when the alleged anticipating device is substantially different in construction and operation from the claim invention. Fuller v. Yentzer, 94 US 299, 24 L. Ed. 107 (1877).

Hagan clearly does not disclose an invention that is **substantially identical to the claimed invention**. It does not have all of the same elements are found in exactly the same situation and united in the same way to perform the function in a single prior art reference. Accordingly, Hagan clearly cannot anticipate claim 17 and the applicant respectfully requests that the examiner withdraw the instant rejection of claim 17.

Regarding claim 18, claim 17 has been distinguished from Hagan above. Claim 18 properly depends from a patentably distinct claim and is therefore also patentably distinct. Accordingly, Hagan clearly cannot anticipate claim 18 and the applicant respectfully requests that the examiner withdraw the instant rejection of claim 18.

Regarding claim 20, claim 17 has been distinguished from Hagan above. Claim 20 properly depends from a patentably distinct claim and is therefore also patentably distinct. Accordingly, Hagan clearly cannot anticipate claim 20 and the applicant respectfully requests that the examiner withdraw the instant rejection of claim 20.

Regarding claim 21, claim 17 has been distinguished from Hagan above. Claim 21 properly depends from a patentably distinct claim and is therefore also patentably distinct. Accordingly, Hagan clearly cannot anticipate claim 21 and the applicant respectfully requests that the examiner withdraw the instant rejection of claim 21.

Claim Rejections – 35 U.S.C. § 103

The examiner has rejected claim 19 as being obvious over Hagan in view of Greenspan (4,114,322). The examiner feels that Hagan discloses the invention but is silent with respect to the angle at which the transition portions interacts with the raised and lowered surfaces. The examiner feels that Greenspan teaches transition portions that are at a 45° angle relative to the raised and lowered surfaces.

The applicant has distinguished Hagan above. Greenspan also teaches a knurled or textured grinding wheel just like Hagan. While it discloses transition portions that are at a 45° angle relative to the raised and lowered surfaces, it does not teach any of the rest of the applicant's invention. Accordingly, the applicant respectfully requests that the examiner withdraw the instant rejection.

The examiner has rejected claim 22 as being obvious over Ishizuka. The examiner feels that Ishizuka discloses the invention including a saw blade consisting essentially of a corrugated shaped blade of substantially uniform thickness comprising a matrix material, large abrasive particles encapsulate in the matrix material, small abrasive particles in the

matrix material between and around the large abrasive particles, the small abrasive particles being encapsulated in high density by volume than the larger abrasive particles, the corrugated shaped blade comprising raised surfaces and lowered surfaces parallel to and spaced laterally and longitudinally of the raised surfaces, and transition portions connecting the raised and lowered surfaces. The examiner further feels that Ishizuka appears to disclose the depth of the corrugations is greater than the thickness of the corrugated shaped blade by a ratio of greater than 3 to 1 in Fig 3B. The examiner feels that it would have been obvious to one of ordinary skill in the arts to use the ratio of 3 to 1.

The applicant has amended claim 22 to make the saw blade and the corrugated shaped blade to be the same structure. As now amended, claim 22 is not obvious over Ishizuka as Ishizuka discloses different structures for the saw blade and the corrugated shaped blade. Accordingly, the applicant respectfully requests that the examiner withdraw the instant rejection.

Respectfully submitted,



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On July 24, 2007

By: 